

WHAT IS CLAIMED IS:

1. A system for purifying exhaust gas of an internal combustion engine having a bypass exhaust gas passage, openable through a switch-over valve, branched from an exhaust pipe at a location downstream of a catalytic converter and merged into the exhaust pipe at a downstream point, an adsorbent installed in the bypass exhaust gas passage which adsorbs unburned components of the exhaust gas, and a recirculation pipe which recirculates the exhaust gas including the unburned components at a location upstream of the catalytic converter,

wherein the improvement comprises:

the recirculation pipe is made of metal and is connected to the bypass exhaust gas passage close to the exhaust pipe such that the recirculation pipe is brought into thermal contact with the exhaust pipe.

2. A system according to claim 1, wherein an inner wall of the recirculation pipe is formed with liquid repellent and oil repellent film.

3. A system according to claim 1, wherein the recirculation pipe is connected to an air intake system of the engine at one end and is connected to a chamber, at the other end, which defines the bypass exhaust gas passage and the recirculation pipe comprises a descending portion and a flat portion relative to an axis of gravity such that it excludes a portion that may collect liquid.

4. A system according to claim 2, wherein the recirculation pipe is connected to an air intake system of the engine at one end and is connected to a chamber, at the other end, which defines the bypass exhaust gas passage and the recirculation pipe

comprises a descending portion and a flat portion relative to an axis of gravity such that it excludes a portion that may collect liquid.

5            5. A system according to claim 1, wherein the recirculation pipe is fastened to a body of the engine by a support made of metal.

10           6. A system according to claim 1, wherein the recirculation pipe is fastened to the exhaust pipe by a stay made of metal.

15           7. A system according to claim 1, wherein the recirculation pipe has a corrugated portion which allows the recirculation pipe to expand or contract in response to expansion or contraction of the exhaust pipe due to exhaust gas heat.

20           8. A system according to claim 6, wherein the recirculation pipe has a corrugated portion which allows the recirculation pipe to expand or contract in response to expansion or contraction of the exhaust pipe due to exhaust gas heat.

25           9. A system according to claim 1, wherein the adsorbent is installed in a chamber defining the bypass exhaust gas passage with a space therebetween such that the exhaust gas is introduced in the space.